

A STUDY ON READINESS AND IMPLEMENTATION OF E- LEARNING AMONG ACADEMIC STAFF AT JORDANIAN INSTITUTIONS OF HIGHER EDUCATION

A Thesis submitted to the UUM College of Arts and Sciences in
fulfilment of the requirements for the degree of Doctor of Philosophy
Universiti Utara Malaysia

By
Mahmoud Nayif Ali Qazaq

2012

**A STUDY ON READINESS AND IMPLEMENTATION OF E-
LEARNING AMONG ACADEMIC STAFF AT JORDANIAN
INSTITUTIONS OF HIGHER EDUCATION**

DOCTOR OF PHILOSOPHY
UNIVERSITI UTARA MALAYSIA
2012

CERTIFICATION OF THESIS/DISSERTATION

Permission to Use

In presenting this thesis in fulfillment of the requirements for a postgraduate degree from Universiti Utara Malaysia, I agree that the Universiti Library may make it freely available for inspection. I further agree that permission for the copying of this thesis in any manner, in whole or in part, for scholarly purpose may be granted by my supervisor(s) or, in their absence, by the Dean of Awang Had Salleh Graduate School of Arts and Sciences. It is understood that any copying or publication or use of this thesis or parts thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to Universiti Utara Malaysia for any scholarly use which may be made of any material my thesis.

Requests for permission to copy or to make other use of materials in this thesis, in whole or in part, should be addressed to:

Dean of Awang Had Salleh Graduate School of Arts and Sciences
UUM College of Arts and Sciences
Universiti Utara Malaysia
06010 UUM Sintok

Abstrak

Kajian ini meneliti tahap kesediaan kakitangan akademik dalam pelaksanaan e-pembelajaran di universiti-universiti di Jordan. Soal selidik yang dibina merangkumi item-item berkaitan dengan faktor psikologi, pentadbiran, teknologi, afektif serta faktor perubahan. Soal selidik diedarkan kepada sejumlah 367 orang kakitangan akademik di bahagian utara, tengah dan selatan Jordan. Selain itu, penyelidik turut menemu bual seramai 24 orang kakitangan akademik. Penyelidik menggunakan kaedah kuantitatif dan kualitatif yang menggabungkan penggunaan soal selidik dan temu bual. Penyelidik juga menggunakan statistik perihalan, ujian ANOVA Sehalu, ujian-*t*, korelasi dan regresi hierarki untuk menganalisis data. Kajian ini memperlihatkan bahawa kesediaan kakitangan akademik dalam pelaksanaan e-pembelajaran adalah tinggi. Kajian ini turut mendapati bahawa kakitangan akademik menunjukkan peningkatan dalam pelaksanaan e-pembelajaran. Namun begitu, lebih banyak usaha perlu ditingkatkan bagi mengatasi beberapa masalah yang berkaitan dengan prasarana dan kekurangan peralatan dalam e-pembelajaran. Dapatan kajian juga menunjukkan bahawa tidak terdapat sebarang perbezaan dari segi tahap kesediaan di antara kakitangan akademik di universiti awam dan di universiti swasta dalam pelaksanaan e-pembelajaran. Dapatan kajian turut memperlihatkan bahawa tidak terdapat perbezaan statistik yang signifikan dari segi jantina, umur, pengalaman, jenis universiti dan kedudukan universiti dalam penerapan e-pembelajaran. Namun begitu, kajian ini menunjukkan bahawa dasar teknologi telah menyederhanakan hubungan antara kesediaan e-pembelajaran dengan pelaksanaan e-pembelajaran. Penyelidik menyarankan agar pihak universiti memberikan lebih banyak sokongan kepada para kakitangan akademik dengan menyediakan peralatan yang mencukupi yang boleh membantu mereka menggunakan e-pembelajaran. Selain itu, dasar perundangan yang lebih kukuh perlu diwujudkan bagi menyokong mekanisme pelaksanaan e-pembelajaran di universiti-universiti. Penataran komputer di universiti juga amat penting bagi memenuhi keperluan yang semakin mendesak khususnya dalam melaksanakan e-pembelajaran dengan lebih pantas dan berkesan.

Kata kunci: e-Pembelajaran, Kesediaan, Pelaksanaan, Pendidikan tinggi, Jordan

Abstract

This study investigated the degree of the readiness of academic staff towards the implementation of e-learning in universities in Jordan. The questionnaire incorporated items that addressed psychological, administrative, technological, affective and change factors. The questionnaire was administered to 367 academic staff from the north, middle and the south of Jordan. In addition, the researcher interviewed 24 academic staff. Thus, the researcher integrated quantitative and qualitative methods which combined the use of questionnaire and interviews. The researcher used descriptive statistics, one way ANOVA, *t*-test, correlation and hierarchical regression to analyze the data. The study revealed that the academic staff readiness towards the implementation of e-learning was high. The study also showed that the academic staff was making progress, but more efforts should be made to overcome some hindrances related to infrastructure and lack of e-learning tools. The results also showed that there was no difference in the degree of readiness between academic staff in public and private universities towards applying e-learning. Furthermore, the results indicated that there was no statistically significant difference based on gender, age, experience, type of university and ranks in applying e-learning. On the other hand, the study revealed that technology policy moderated the relationship between e-learning readiness and implementation. The researcher recommended that there should be more support from universities in providing the academic staff with sufficient tools that assist the adoption of e-learning. In addition, a strong legal policy should be established to support the mechanisms of adopting e-learning in universities. Upgrading computers in universities is very important to meet the increasing needs for speed and efficiency in adopting e-Learning.

Keywords: e-Learning, Readiness, Implementation, Higher education, Jordan

Acknowledgment

In the name of Allah, the most Beneficent, the most merciful. All praises and thanks are to Allah, the lord of the universe and all that exist.

I could hardly find the words to express my appreciation for my supervisors Assoc. Prof. Dr. Abdul Malek Abdul Karim and Assoc. Prof. Dr. Ahmad Jelani, who were very patient and supportive, nourishing and cherishing not just during my studies, but also for their help and guidance throughout my time at UUM University. Their patience and willingness to discuss aspects of this research were invaluable as were their insights into the topic as well as their enthusiasm for philosophical inquiry.

I also would like to acknowledge Prof. Nedal Hawamdih, who was my first contact at Mutah university who provided the path from which I was able to begin the doctoral program. I appreciate his support and help. I am also very grateful to my Dr. Yasin Namir from Mutah university, who provided unending advice for me on this research and helped me make connections between the academic world of theory and the reality of research in instructional technology and education as it was practiced in so many ways. Other professors, who were instrumental in developing my understanding of instructional technology, and education, include Dr. Nabeel Najar. His continued support, encouragement, and positive attitude made it easier to me to overcome all difficulties in this process. I am also, indebted to my friends especially Professor Yahya Ababnih, Dr. Aiman Nassoura, Dr. Fayez Alsoub, Dr. Abdulhameed Alenezi, Mohammed Alenezi, Hisham Kamel and Mohammad Mahasneh for their support and understanding during the entire process. My family made the best efforts to support me and never made me feel upset or tired. I cannot thank enough to my parents for giving me life in the first place and their endless support. I also would like to thank my brothers and sisters for their support. Last, but not least, I would like to give a very special thanks to my mother and wife, Rana she always has been there for me and to my lovely for their patience and understanding all the hard works I went through.

Table of Contents

Permission to Use.....	i
Abstrak.....	ii
Abstract.....	iii
Acknowledgment.....	iv
Table of Contents.....	v
List of Tables.....	xi
List of Figures.....	xiii
List of Appendices.....	xiv
 CHAPTER ONE INTRODUCTION.....	 1
1.1 Introduction.....	1
1.2 Problem Statement.....	6
1.3 Objective of the Research.....	10
1.4 Research Questions.....	11
1.4.1 Research Hypotheses.....	12
1.5 Significance of the Study.....	15
1.6 Scope of the Study.....	17
1.7 Operational Definitions and Measurement of Factors.....	17
1.7.1 Definition of Implementation.....	17
1.7.2 Definition of Readiness.....	18
1.7.3 Definition of E-Learning.....	18
1.7.4 Human Factors.....	18
1.7.4.1 Psychological Readiness Variable.....	19
1.7.4.2 Motivation Readiness Variable.....	19
1.7.4.3 Confidence Readiness Variable.....	19
1.7.5 Administrative Factors.....	20
1.7.5.1 Knowledge Readiness Variable.....	20
1.7.5.2 Training Readiness Variable.....	20
1.7.5.3 Environment Readiness.....	21
1.7.5.4 Human Resource Readiness Variable.....	21
1.7.6 Technology Factors.....	21
1.7.6.1 Technological Readiness Variable.....	21
1.7.6.2 Equipment Readiness Variable.....	22
1.7.6.3 Communication Readiness Variable.....	22

1.7.7 Attitude Factors.....	22
1.7.7.1 Anxiety Variable.....	23
1.7.7.2 Confidence Variable.....	23
1.7.7.3 Liking Variable.....	23
1.7.7.4 Usefulness Variable.....	23
1.7.8 Change factors.....	24
1.7.8.1 Self Development Readiness.....	24
1.7.8.2 Innovation Readiness Variable.....	24
1.7.9 Technology Policies.....	25
1.7.10 Assistant Professor.....	25
1.7.11 Associate Professor.....	25
1.7.12 Full Professor.....	25
1.8 Summary and Organization of the Study.....	26
CHAPTER TWO LITERATURE REVIEW.....	27
2.1 Introduction.....	27
2.2 The Definition of E-Learning.....	28
2.3 The Advantages and the Importance of E-Learning.....	29
2.4 E-Learning in Education.....	32
2.5 Challenge in Implementation E-Learning.....	39
2.6 The Difference Between E-Learning and Distant Learning.....	40
2.7 E-Learning Obstacles.....	45
2.8 Infrastructure.....	49
2.8.1 Investment.....	49
2.8.2 Time.....	50
2.8.3 Motivation.....	52
2.8.4 Knowledge.....	53
2.8.5 Experience.....	54
2.9 Studies Related to E-Learning Readiness.....	54
2.10 E-Learning Framework.....	59
2.11 E-Learning Tools.....	63
2.12 E-Learning Design.....	66
2.13 E-Learning Readiness Factors.....	68
2.13.1 Human Readiness Factors.....	68
2.13.1.1 Psychological Readiness.....	69
2.13.1.2 Motivation Readiness.....	70
2.13.1.3 Confidence Readiness.....	72
2.13.2 Administrative Factors.....	73

2.13.2.1 Training Readiness.....	73
2.13.2.2 Environment Readiness.....	76
2.13.2.3 Knowledge Readiness.....	77
2.13.2.4 Human Resource Readiness.....	78
2.13.3 Technology Factors.....	79
2.13.3.1 Technological Readiness.....	79
2.13.3.2 Equipment Readiness.....	83
2.13.3.3 Communication Readiness.....	84
2.13.4 Attitude Factors.....	88
2.13.4.1 Anxiety.....	89
2.13.4.2 Confidence.....	90
2.13.4.3 Liking.....	90
2.13.4.4 Usefulness.....	90
2.13.5 Change Factors.....	93
2.13.5.1 Innovation Readiness.....	93
2.13.5.2 Self Development Readiness.....	94
2.13.6 Technology Policy as Moderator Variable.....	96
2.14 Demographic Factors.....	100
2.14.1 Experience.....	100
2.14.2 Age.....	102
2.14.3 Gender.....	104
2.14.4 Type of the University.....	105
2.14.5 Academic Rank.....	105
2.14.6 Specialization.....	106
2.14.7 High Degree.....	106
2.15 Experiences of Some Countries in E-Learning System.....	107
2.15.1 USA.....	107
2.15.2 Malaysia.....	108
2.15.3 Australia.....	109
2.15.4 England.....	109
2.15.5 Canada.....	110
2.16 Education in Jordan.....	111
2.16.1 Higher Education in Jordan.....	112
2.16.2 Brief History of Higher Education in Jordan.....	113
2.16.3 E-Learning in Jordan.....	114
2.17 Research Model.....	122
2.18 Underpinning Theories.....	124
2.18.1 Rogers Theories.....	124

2.18.1.1 Innovation Decision Process Theory.....	126
2.18.2 Theory of Reasoned Action TRA.....	128
2.18.3 Technology Acceptance Model TAM.....	130
2.19 Conclusion.....	133
CHAPTER THREE RESEARCH METHODOLOGY.....	135
3.1 Introduction.....	135
3.2 Research Design.....	135
3.3 Research Context.....	137
3.4 Research Framework.....	137
3.5 Research Variables.....	139
3.6 Study Population	140
3.7 Sample Selection	141
3.8 Instrumentation.....	144
3.8.1 The Scales of the Questionnaire	147
3.8.1.1 The Scale for E-Learning Readiness.....	148
3.8.1.2 The Scale for E-Learning Implementation.....	148
3.8.1.3 The Scale for Technology Policy.....	148
3.9 Critical Level of the e-Learning Readiness.....	148
3.10 Critical Level of the Measure Relationship of Factors.....	149
3.11 Critical Level of the Measure the Moderating and Dependent Variable.....	149
3.12 The Validity of Questionnaire.....	150
3.13 Pilot Study.....	153
3.14 The reliability of Questionnaire.....	153
3.15 Data Collection Procedures.....	155
3.15.1 Questionnaire.....	155
3.15.2 Interview.....	156
3.15.2.1 Procedures of the Interview.....	156
3.16 Data analysis.....	157
3.16.1 Quantitative Data.....	157
3.16.2 Qualitative Data	158
3.17 Summary of the Chapter.....	158
CHAPTER FOUR FINDINGS.....	160
4.1 Introduction.....	160
4.2 Data analysis Strategy.....	160
4.3 The Data Characteristics of Respondents.....	160
4.3.1 Response Rate.....	160

4.3.2 Missing Data.....	161
4.3.3 Outliers Test	161
4.3.4 Normality Assessment.....	162
4.4 Exploratory Factor Analysis.....	163
4.4.1 Factor Analysis Procedure.....	163
4.4.1.1 Factor Analysis of Independent Variables.....	166
4.4.1.2 Factor Analysis of Dependant Variable.....	167
4.4.1.3 Factor Analysis of Moderating Variable.....	167
4.5 Validity Testing.....	168
4.5.1 Construct Validity.....	168
4.5.2 Convergent Validity.....	169
4.5.3 Statistical Conclusion Validity.....	169
4.6 Respondents' Profile.....	170
4.7 Answering the Research Questions.....	172
4.7.1 What is the Level of E-Learning Readiness in the Jordanian Public and Private Universities?	172
4.7.2 What are the Most Important Tools that are Commonly Used in E-Learning Implementation?.....	178
4.7.3 Are There Any Differences in E-Learning Readiness in Terms of Gender, Rank, Age, Computer experience, Specialization and Type of University?....	179
4.7.4 Is There Any Relationship Between The E-Learning Readiness Factors?.....	184
4.7.5 Is There Any Relationship Between the E-Learning Readiness Factors and Implementation Factors?.....	189
4.7.6 Which Factors Contribute to E-Learning Implementation in the Jordanian Public and Private Universities?.....	193
4.7.7 Does Policy Moderate the Relationship Between E-Learning Readiness Factors and Implementation?	195
4.8 Qualitative data analysis.....	203
4.8.1 What are the Obstacles Facing Academic Staff in Using E-Learning in Their Teaching?.....	204
4.8.1.1 Summary for First Question.....	213
4.8.2 What is the Academic Staff View Towards Using E-Learning in Teaching?.....	213
4.8.2.1 Summary for second question.....	220
4.9 Conclusion.....	221
CHAPTER FIVE DISCUSSION, CONCLUSION AND RECOMMENDATIONS	222
5.1 Introduction.....	222

5.2 Quantitative Data.....	222
5.2.1 Discussion of First Question Results.....	222
5.2.2 Discussion of Second Question Results.....	228
5.2.3 Discussion of Third Question Results.....	230
5.2.4 Discussion of Fourth Question Results.....	236
5.2.5 Discussion of Fifth Question Results.....	238
5.2.6 Discussion of Sixth Question Results.....	240
5.2.7 Discussion of Seventh Question Results.....	243
5.3 Qualitative Data.....	246
5.3.1 Discussing of Eighth Question Results.....	246
5.3.2 Discussion of Nine Question Results.....	249
5.4 The Overall Conclusion.....	251
5.5 The Contribution of the Study.....	251
5.6 Recommendation.....	252
5.7 Further Study.....	253
References.....	255
Appendices.....	270

List of Tables

Table 2.1	Difference Between Definition Of Synchronous And Asynchronous E-Learning.....	41
Table 2.2	The Difference Between Classroom Learning and E-Learning.....	42
Table 2.3	Comparison Between External and Internal Obstacles to Use IT.....	46
Table 2.4	Machado Factors for Measure E-Learning Implementation.....	62
Table 3.1	Independent and Dependent Variable.....	139
Table 3.2	Staff Number of Public and Private Universities in Jordan.....	140
Table 3.3	Sample of Universities in the Study.....	142
Table 3.4	Number of Respondents.....	143
Table 3.5	Sample of the Study Divided to Different Terms (Major, Rank, University).....	144
Table 3.6	Measuring the Staff Readiness to E-Learning Before and After Validity...	152
Table 3.7	Alpha Results Between Test –Retest.....	154
Table 3.8	Correlations Results Between Factors.....	155
Table 3.9	Statistical Analysis Procedures Used to Answer Research Questions.....	157
Table 4.1	Outliers List Cases.....	162
Table 4.2	Items Dropped During Exploratory Factors Analysis.....	166
Table 4.3	Alpha Value After Factors Analysis.....	167
Table 4.4	Academic Staff Profile.....	171
Table 4.5	Human Factor Results.....	173
Table 4.6	Administrative Factor Results.....	174
Table 4.7	Technology Factor Results.....	175
Table 4.8	Attitude Factor Results.....	175
Table 4.9	Change Factor Results.....	176
Table 4.10	Comparison Between Public and Private Universities Towards E-Learning Readiness.....	177
Table 4.11	E-Learning Implementation Tools.....	179
Table 4.12	T-Test Differences in E-Learning Readiness Based on Gender, Specialization and Type of the University.....	180

Table 4.13	One Way ANOVA Test Differences in E-Learning Readiness Based on Age, Rank, and Experience.....	182
Table 4.14	Correlations Matrix Analysis Results Among Human, Attitude, Technology, Administration and Change Factors.....	189
Table 4.15	Hypothesis Testing Results.....	193
Table 4.16	The Factors That Contribute to E-Learning Implementation.....	194
Table 4.17	Moderating Effect of Technology Policy.....	198
Table 4.18	Results of Coefficients Multiple Regression Analysis Between Independent Variables and Dependent Variable	199
Table 4.19	Results of Multiple Regression Analysis Between Independent Variables and Dependent Variable with (Technology Policy Moderate).....	202

List of Figures

Figure 2.1	Khan's Framework for E-Learning.....	61
Figure 2.2	Contino's Framework for E-Learning.....	62
Figure 2.3	E-Learning Framework.....	67
Figure 2.4	Map of Jordan.....	112
Figure 2.5	Location of Jordan on the World Map.....	113
Figure 2.6	Jordan Rank Among World Countries in Information Technology.....	114
Figure 2.8	Research Model.....	123
Figure 2.9	Roger's Theory.....	127
Figure 2.10	Ajzen and Fishbien Model.....	129
Figure 2.11	Technology Acceptance Model.....	131
Figure 3.1	Research Framework.....	138
Figure 3.2	Assessment Model of the E-Learning Readiness.....	149
Figure 4.1	Hypothesized Model.....	190
Figure 4.2	Explained IVs from DV with Moderate Factor Models.....	201

List of Appendices

Appendix A	
Measurement Scale and Reliabilities of E-Learning Readiness.....	270
Appendix B	
Quantitative Descriptive Statistics.....	277
Appendix C	
Factors Analysis.....	278
Appendix D	
Questionnaire Items from Reviewed Literature.....	284
Appendix E	
Initial Questionnaire.....	285
Appendix F	
Final Questionnaire.....	297
Appendix G	
Editorial Staff.....	308
Appendix H	
The Arabic Version of the Questionnaire.....	309
Appendix I	
Names of Universities and Locations.....	318

CHAPTER ONE

INTRODUCTION

In this chapter, the researcher will discuss background information regarding e-Learning readiness and implementation. This background will be followed by the statement of the problem, research questions, research objectives and significance of the study.

1.1 Introduction

As a result of the tremendous development in using Internet and information technology, the world has become a global village, and accessing information nowadays has become available to almost every one regardless of where he/she is. Moreover, information technology has a dramatic impact on societies (Shoniregun & Gray, 2003). With the ubiquitous services offered by the World Wide Web (WWW) and the fast development of information tools and telecommunications technologies, there is a strong tendency to use information technology (IT) in education sectors (Woodfine & Nunes, 2006).

After the emergence of internet services, many educational centers around the world have attempted to make use of these tools for educational purposes. Because of the rapid increase in the use of modern technology, internet has become a key element in many universities because of its importance for administrative, academic staff and students (Lorens & Salanova, 2002). Internet has indeed become one of the most

The contents of
the thesis is for
internal user
only

Reference

- Abbas, Z. M., Umer, M., Odeh, M., McCatchey, R., Ali, A. & Ahmad, F. (2000). A semantic grid-based e-Learning framework (SELF). *International Symposium on Cluster Computing and the Grid (IEEE) .(1)*, 11-18. Pakistan. Retrieved December 10, 2006, from: <http://arxiv.org/ftp/cs/papers/0502/0502051.pdf>.
- Abdul-Karim, M. R. & Hashim Y. (2004). The experience of the e-Learning implementation at the Universiti Pendidikan Sultan Idris, Malaysia, *Malaysian Online Journal of Instructional Technology*, 1(2), 50-59.
- Abu Samak, Z.(2006). *An exploration of Jordanian English language teachers' attitudes, skills, and access as indicator of information and communication technology integration in Jordan*. (Unpublished Doctoral Dissertation). The Florida State University, Florida, USA.
- Abu Haija, A. (2001). *Speech by Jordan National tempus office coordinator*. In A. Karim and N. Ali (Eds). Paper presented at the Jordan higher education cooperation conference 15-17 December, 2010. Retrieved May 13, 2007, from: <http://www.ec.europa.eu/education/programmes/tempus/countries/higher/jordan.pdf>.
- Agboola, A. K. (2005). The awareness and perceptions of academic staff in using e-learning tools for instructional delivery in a post-secondary institution: A case study. *Innovation Journal: The Public Sector Innovation Journal*, 11 (3), 65-80.
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behaviour*. Englewood Cliffs, NJ: Prentice-Hall, Inc.
- Akaslan, D., & Law, E. (2011). *Measuring teachers' readiness for e-Learning in higher education institutions associated with the subject of electricity in Turkey*. Paper presented at the education engineering. Learning environments and ecosystems in engineering education conference 2-4 April. Amman.
- Akbaba-Altun, S. (2006). Complexity of integrating computer technologies into education in Turkey. *Educational Technology and Society*, 9 (1), 176-187.
- Alajami, M. (2010). Faculty members' readiness for e-Learning in the college of basic education in Kuwait. (Published Doctoral Dissertation), University of North Texas, Denton, USA.
- Alammari, J. (2004). *Benefits and barriers to implementing computer use in Qatari elementary schools as perceived by female teachers, an exploratory study*. (Unpublished Doctoral Dissertation). Ohio State University, New York. USA.
- Albalawi, A., & Badawi, M. (2008). *Teachers' perception of e-Learning at the University of Tabuk*. In C. Bonk and G Richard (Eds). Proceedings of world conference on e-Learning in corporate, Government, Healthcare, and Higher Education 2008, 2434-2448. Chesapeake, VA: AACE.

- Aldoan, M. A. (2007). *An exploratory study about internet use among education faculty member in Jordanian public universities*. (Unpublished Doctoral Dissertation). Ohio State University, New York. USA.
- Alkhalifa, H. S. (2010). E-Learning and ICT integration in colleges and universities in Saudi Arabia. *E-learn Magazine*. Retrieved March 16, 2011, from: <http://elearnmag.acm.org/index.cfm>
- Ali, A. (2004). *Issues & challenges in implementing e-learning in Malaysia*. Open University Malaysia. Retrieved March 22, 2007, from: <http://asiapacific-odl.oum.edu.my./C33/F80.pdf>.
- Almusaswi, A. S., & Abdelraheem A. Y. (2004). E-Learning at Sultan Qaboos University: Status and future. *British Journal of Education Technology*, 35(3), 363-367.
- Alotaibi, N. B. (2006). *Electronic education constrained at the ministry of education, From leaders perspectives*. (Unpublished Master Thesis), Mu'tahUniversity. Al-Karak, Jordan.
- Alsharah, N., & Al Souqi, S. (2005). The effect of using computers in the teaching of english composition on the writing performance of Jordanian tenth grade students. *Mu'tah Lil-Buhuth Wad-Dirasat*, 20(7), 57-90.
- Alshalabi, H., & Aljufout, S. (2005). The electronic classroom through embedded e-Learning in Jordan. *Asian Journal of Distance Education*, 3(2), 42-47.
- Amer, T. A. (2005). *Self-learning concepts* (2thed.). Amman, Jordan: Al-dar Alalami'a for Publishing and Distribution.
- Arsham, H. (2002). Impact of the internet on learning and teaching. *Education United State Distance Learning Association Journal*, 16(3), 9-20.
- Astleitner, H. (2000). Designing emotionally sound instruction: The FEASP-approach (fear, envy, anger, sympathy, and pleasure). *Instructional Science*, 28(3), 169-198.
- Ataizi, M. (2006). *Readiness for e-Learning: Academician's perspective*. In C. Bonk and M. Steven. (Eds). Paper presented at conference on e-Learning in corporate, Government, Healthcare, and Higher Education 2007, 2316-2321. Chesapeake, VA: AACE. Retrieved 1 January, 2007, from: www.Aof.Edu.Tr/Iodl2006/Proceedings/Book/Papers/Paper_61.Pdf
- Aydin, C. H., & Tasci, D. (2005). Measuring readiness for e-Learning: Reflections from an emerging country. *Educational Technology & Society*, 8(4), 244-257.
- Baker, k. D. (2006). Frameworks to support e-Learning standards. *International Journal of Learning and teaching*, 2(4), 357-369.
- BaniDomi, H., & Alshannag, Q. (2008). The obstacles of e-Learning in physics subject from teachers and students perspectives. *Mu'tah Lil-Buhuthwad-Dirasat*, 17(5), 57-90.

- Baptista-Nunes, M., & Mcpherson, M. (2002). *No lectures on-campus: Can e-Learning provide a better learning experience*. In C. Dwyer (Eds). Paper presented at conferences in the field of educational technology and e-learning – ICALT, ICCE, E-Learn and AUA advanced learning technologies, IEEE Computer Society, 14-16 October. pp. 442-447. Kazan, Tartarstan.
- Bagozzi, R., Wong, N., Abe, S., & Bergami, M. (2000). Cultural and situational contingencies and the theory of reasoned action: Application to fast food restaurant consumption. *Journal of Consumer Psychology*, 9(2) 97-106.
- Barker, J. (2003). *Glossary of internet & web jargon*. Retrieved June, 2006, from <http://www.lib.berkeley.edu>.
- Bates, A. W. (2005). *Technology, e-Learning and distance education*. (2th ed) Routledge, New York, Simultaneously Published.
- Becta. (2004). *A Review of the research literature on barriers to the uptake of ICT by teachers*. Retrieved March 25, 2006, from: <http://www.becta.org.uk>.
- Begicevic, N., Divjak, B., & Hunjak, T. (2006a). Validation of theoretical model for decision making about e-learning implementation. *Journal of Information and Organizational Sciences*, 30(2), 171-185.
- Begicevic, N., & Divjak, B. (2006b). Decision making model for strategic planning of e-learning implementation. *Journal of Information and Organizational Sciences*, 31(1), 11-23.
- Bigg, M. (2004). *Organizational readiness for e-Learning implementation*. Chesterfield, England: Library Services Manager.
- Bitner, N., & Bitner, J. (2002). Integration technology into the classroom: Eight keys to success. *Journal of Technology and Teacher Education*, 3 (10), 95-100.
- Blinco, K., & Curtis, G. (2004). *LeAP project case study: Implementing web services in an education environment*, Department of Education. Project case study, 16 July. Australia. Retrieved 12 April, 2007, from: www.jisc.as.uk.elearning_framework.aspx.
- Briges, O. (2004). *Multimedia training kit: Additional reading: Real access/Real impact framework for ICT in development. Report in Ghana, 2003*. Retrieved August 12, 2007, from: www.derechos.apc.org/training/contents/ictpo.
- Broadbent, B. (2001). *Tips to help decide if your organization is ready for e-learning*. Retrieved 12 July, 2006, from: <http://www.elearnspace.com.articles/012.htm>.
- Burges, L. A. (2003). WebCT as an e-Learning tool: A study of technology students' perceptions. *Journal DALE*, 15(1) 34-56.
- Cairns, L. (2000). *The process / outcome approach to becoming a capable organization*. Australian capability network conference, 4-6 May, Sydney. 1-14.

- Chapnick, S. (2000). *Are you ready for e-Learning, learning circuit (ASTD)*. Retrieved 18 July, 2007, from: www.learningcircuits.org/2000/nov/Chapnick.htm.
- Checchi, D. (2006). *The economics of education, human capital, family background, and Inequality*. Cambridge: Cambridge University Press.
- Chen, H. (1998). Theory-driven evaluations. *advances in educational productivity*, 3(7), 15-34.
- Chen, Y. N., & Chen, W. (2006). E-government strategies in developed and developing countries: an implementation framework and case study. *Journal of Global Information Management*, 14(1), 23-46.
- Citation, H. (2001). Motivation to learn: A overview. *Education Psychology Interactive*. 6(1), 49-77.
- Clark, R. E. (1984). Research on student thought processes during computer based instruction. *Journal of Instructional Development*, 7(3), 2-3.
- Cohen, D. K., & Hill, H. C. (2001). *Learning policy: When state education Reform Works*. New Haven: Yale University Press.
- Collison, G., & Elbaum, B. (2000). *Facilitating online learning effective strategies for moderators*. Madison, USA: Tinker Atwood Publishing.
- Contino, M. S. (2005). Organizational readiness: Finding the key indicators. *Journal of Cost management* 19(5), 24-30.
- Cousin, G., Deepwell, F. (2004). *Theorising implementation: Variation and commonality in european approaches to e-Learning*. Networked Learning 2004. Lancaster University, University of Sheffield. London: England.
- Czaja, S., & Sharit, J. (1998). Age differences in attitude toward computers, Jounrao of Gerontology. *Psychological Sciences*, 48(2), 329-340. Retrieved April, 2, 2011. From <http://psychsocgerontology.oxfordjournals.org/content/53B/.full.pdf+html>.
- Dada, I. (1992). *Job satisfaction of physical education teachers in Jordan*. (Unpublished Master Thesis). University of Jordan. Amman, Jordan.
- Dan, S. (2001). Learning virtual. Global culture. *Arts and Literature*. 106, 170-177.
- Daniel, J. (1996). *Mega universities and knowledge media*. London, Kogan Page.
- Davis, R., & Wong, D. (2007). Conceptualizing and measuring the optimal experience of the e-Learning environment. *Decision Sciences Journal of Innovative Education*, 5(1), 97-126.
- Davis F., Bagozzi, R., & Warshaw, P. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, 35(8) 982- 1003.

- Dearlove, J. (1997). The academic labour process: from collegiality and professionalism to managerialism and proletarianisation. *Higher Education Review*, 31(1), 35-71.
- Deepwell, F. (2007). Embedding quality in e-learning implementation through evaluation. *Educational Technology & Society*, 10(2), 34-43.
- Department of Statistics (2007). *Department of statistics report*. Amman: Jordan.
- Dewey, J. (1991). *Progressive education for the 1990s: transforming practice*. New York, Teachers College Press.
- Dimarco, S., Maneira, A., Robeiro, P., & Maneira, M. (2009). *Blended-learning in science and technology. A collaborative project-based course in experimental physics*. Retrieved April, 2, 2011 From [http:// www.elearningpapers.eu](http://www.elearningpapers.eu).
- Divjak, B., & Begicevic N. (2006). *Imaginative acquisition of knowledge - strategic planning of e-Learning*. In M. Duun (Eds). International Conference on Information Technology Interfaces, 9-11 October. University of Zagreb, Dubrovnik, Croatia, 2006.
- Duderstadt, J. J., & Womack F. W. (2003). *The future of the public university in American beyond the crossroads*. USA: The Johns Hopkins University Press.
- Eagly, A., & Chaiken, S. (1995). Attitude strength, attitude structure and resistance to change. *Ohio State University Series on Attitudes and Persuasion*, 4, 413-432.
- Education and Manpower Bureau (2004). *Empowering learning and teaching with information technology*. Hong Kong, Government Printers.
- Educause Center for applied Research. (2003). Supporting e-learning in higher education. *Educause Center for Applied Research*. 3 USA. Retrieved 12 February, 2007, from: <http://www.educause.edu/ir/library/pdf>.
- Fawcett, D. (2003). Supporting e-Learning at the university of southern California. *Educause Center for Applied Research*. USA.
- Fogerson, D. L. (2005). *Readiness factors contributing to participant satisfaction in online higher education courses*. (Unpublished Doctor Thesis). University of Tennessee, Knoxville, USA.
- Forcier, R. C. (1999). *The computer as educational tool*. New York, Prentice-Hall, Inc.
- Fusayil, A. (2000). *The adoption of the Internet by faculty members at Ohio University*. (Unpublished doctoral dissertation), Ohio University, Ohio, USA.
- Fry, K. (2001). E-learning markets and providers: some issues and prospects. *Education + Training*, 43(5), 233-239.

- Goel, S. L., & Kumar. R. (2004). *Administration and management of NCOS text and case studies*. New Delhi: Deep publications.
- Goi, C. L., & Ng, P. Y. (2009). E-learning in Malaysia: Success factors in implementing e-Learning program. *International Journal of Teaching and Learning in Higher education*, 20(2), 237-246.
- Gorbachev N. N., & Malchenko S. (2006). The implementation of international standards into the education process in Belarus. *Foresight and Innovation Policy*.2(2), 175-183.
- Green, K. (2000). *Campus computing 2000: The 2000 national survey of computing and information technology in us higher education*, Encino, CA: Campus Computing.
- Guernsey, L. (1998). *A new career track combines teaching and academic computing*. The Chronicle of Higher Education, 35-37. Retrieved 15 May, 2006, from: <http://chronicle.com/weetly.htm>.
- Guglielmino, P. J., & Guglielmino, L. M. (2003). Are your learners *ready* for e-learning? *The AMA handbook of e-learning: Effective design, implementation, and technology solutions*, New York: AMACOM, 87-98.
- Gurr, D. (1997). *The development of management information systems in education*. In G. Piskurich(Eds.). Paper presented at the National Conference in Canberra. Retrieved January 22, 2007, from: www.staff.edfac.unimelb.edu.au/david_gurr/papers/mgt_inform.
- Hadjiathanasiou, P. (2009). The e-Learning readiness of Cyprus primary teachers ahead of dias system integration into Cyprus schools. *European Journal of Open, Distance and E-Learning*. 34-51.
- Hair, J., Blake, W., Babin, B., & Tatham, R. (2006). *Multivariate Data Analysis*. New Jersey: Prentice Hall.
- Hall, B. (2001). *E-learning guidebook. six steps to implementing e-Learning*. Retrieved 17 December, 2007, from <http://www.brandonhall.com>.
- Hall, G. E., & Hord, S. M. (2006). *Implementing change: Patterns, principles, and potholes* (2thed). Boston, MA: Pearson Education.
- Hall, T. B. (2002). *Curriculum development critical success factors for e-Learning implementation*. Computers in Education, USA.
- Haney, D. (2002). Assessing organizational readiness for e-learning: 70 questions to ask. *Performance Improvement*, 41(4), 8-13.
- Hanna, G. D., & Concei, C. (2000). *147 practical tips for teaching online groups*. Madison, Wisconsin, USA: Atwood Publishing.
- Harriman, G. (2007). *E-learning resources*. Retrieved November 17, 2007, from www.grayharriman.com/e-learning_advantages.htm#1-2007.

- Harris, R., & Hall J. (2004). *Impact of e-learning on learner participation, attainment, retention, and progression in further education*. Retrieved 12 May, 2007, from www.dfes.gov.uk/elarning.pdf.
- Haverila, M., & Barkhi, R. (2009). The influence of experience, ability and interest on e-Learning effectiveness, *European Journal of Open, Distance and e-Learning*, 2(3), 45-66.
- Haynes, P., Saintas, P., Stanier, S., Palmer, H., Thomas, N., Reast, G., Barlow, J., & Maillardet, F. (2004). Responding to technological change: IT skills and the academic teaching profession. *Active Learning in Higher Education*, (5), 152-165.
- Henry, P. (2001). E-Learning technology, Content and services. *Education + Training*, 43(4), 249-255.
- Hewett, B. L., & Powers, C. E. (2005). How do you ground your training? Sharing the principles and processes of preparing educators for online writing instruction. *Technological and Communication Quarterly*, 16(1), 1-11. Retrieved 10 January, 2007, from <http://english.ttu.edu/kairos/10.1/binder.html?praxis/hewett/index/htm>.
- Homan, G., & Macpherson, A. (2005). E-Learning in the corporate university. *Journal of European Industrial Training*, 29(1), 75-90.
- Huffaker, D. (2003). Reconnecting the classroom: e-Learning pedagogy in us public high schools. *Australian Journal of Educational Technology*, 19(3), 356-370.
- Huffaker, D. (2006). A contextualized model of accessible e-Learning practice in higher education institutions. *Australian Journal of Educational Technology*, 22(2), 268-288.
- Hug, T., & Friesen, N. (2009). Outline of a microlearning agenda. *E-learning Paper*, 16. September 2009. ISSN 1887-1542. Thompson Rivers University, Canada
- Hung, C. (2007). Family, schools and taiwanese children's outcomes. *Educational Research*, 49(2), 115-125.
- Iadat, Y. A. (2004). *Computer education and educational applications*. Amman, Jordan: Dar march of the publication, Distribution and Printing.
- Irfan, Y., & Dianne M. (2006). An expert system measuring effectiveness of an e-Learning environment. In M. Nader. (Eds.). *Conference IMCL*, April 19 -21, 2006 Amman, Jordan.
- Isackson, P. (2001). Principles and problems of productivity in e-Learning. *The Internet and Higher Education*, 4(3), 278-299. Retrieved March 22, 2007, from <http://www.intersmartcom.com>.
- Isa, F. M. (2007). *Change management Initiatives and change success in direct selling Industry: The moderating effect of attitude towards*

- change*.(Unpublished Doctoral Dissertation). University Science Malaysia, Malaysia.
- Jameson, J., & Ferrell, G. (2006). Building trust and shared knowledge in communities of e-Learning practice: Collaborative leadership in the JISC eLISA and CAMEL lifelong learning projects. *British Journal of Education Technology*, 37(6), 949-967.
- JefMoonen, B. (2001). *Flexible learning in a digital world, experiences and expectations*. England: Great Britain by Biddles Ltd.
- Jochems, W., & Merrieboer, J. (2004). *Integrated e-learning implications for pedagogy, technology and organization*. London, England: Routledge Falmer.
- Johnson, D. (2001). *Pecial Report: Learning*. England: Next Frontiers.
- Jordan Times. (2007, 12 June). The Future. *News paper*. Retrieved, from <http://www.jordanembassyus.org/02082007002.htm>.
- Joris, M.,& Berg, C. V. (2003). Home, but not alone, Information and communication technology and interationalisation at home. *Journal of Studies in International Education*. 7(4), 94-107.
- Karmakar, C. K., & Wahid, C. M (2005). Recommendations for Bangladesh towards e-learning readiness. *Department of Computer Science*, ShahjalaUniversity. Bangladesh. Retrieved May 12, 2007, from: http://codewitz.info/papers/MMT_97-102_Karmakar_Wahid%20.pdf.
- Keegan, D. (2002). Definition of distance education, distance education: teaching and learning in higher education. *Issues in Accounting Education*, 20(3), 255-272.
- Kelly, B. & Phipps, L. (2004). Developing a holistic approach for e-learning accessibility. *Canadian Journal of Learning and Technology*, 30(3), 121-134.
- Kendel, M. M. (1995). *Computer attitudes and use of public and secondary school teachers in Kentucky*. (Unpublished Doctoral Dissertation). University of Kentucky. (USA) AAT 9523940.
- Khan, B. H. (2007). Flexible learning in an information society. An imprint of idea Group Inc. Chocolate Avenue; USA: Information science publishing.
- Khatib, A. M., & Maayan A. S. (2006). *Creative management of the universities of new models*. Amman, Jordan: The World Book Publishing and Distribution.
- Kirkman, G. S. & Osorio, C. A. (2003). *The networked readiness index: Measuring the preparedness of nations for the networked world*. Retrieved 8 April, 2006, from <http://unpan1.un.org/intradoc/groups/public/documents/apcity/unpan008655.pdf>.
- Kovacic, Z. J. (2005). The impact of national culture on worldwide e-government readiness. *Information Science Journal*, 5(8), 33-45.

- Ladyshevsky, R. (2004). E-Learning compared with face to face: Differences in the academic achievement of postgraduate business students. *Australian Journal of Educational Technology*, 20(3), 316-336.
- Larner, D. Timberlake, M. (1995). *Teachers with limited computer knowledge: Variables affecting use and hints to increase use*. The Curry School of Education. University of Virginia. Virginia, USA.
- Linckels. S., Kreis. Y., Reuter. R., Dording. Ca, Weber. C., & Meinel C. (2009). *Teaching with information and communication technologies: preliminary results of a large scale survey*-New York, NY, USA. ISBN:978-1-60558-477-5.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic Inquiry*. Beverly Hills: Sage publications.
- Lorens, S., & Salanova, M. (2002). Training to technological change. *Journal of Research on Technology in Education*, 35(2), 206-213.
- Lockard, J., & Abrams, D. P. (2001). *Computer, for twenty-first century educators*. (5th ed). Longman: New York.
- Lloyd, H., & Gressard, P. (1984). Reliability and factorial validity of computer attitude scales. *Educational and Psychological Measurement*, 44(2), 501-505.
- Machado, C. (2007). Developing an e-readiness model for higher education institutions: results of a focus group study. *British Journal of Educational Technology*, 38(1), 72-82.
- Mackenzie, R. L. (2004). *E-learning and change management - the challenge*. Retrieved 12 March, 2007, from: <http://www.vantaggio-learn.com>.
- Macpherson, A., & Homan, G. (2005). The implementation and use of e-learning in the corporate university. *Journal of Workplace Learning*, 17(2), 33-48.
- Malak, H. F. (1994). *The impact study track trends in the computer at the 10th grade students about computer*. (Unpublished Master Thesis) University of Yarmouk, Irbid, Jordan.
- Marina, S. T. (2001). Facing the challenges, getting the right way with distance learning. *Education USDLA Journal*, 15(5), 74-94.
- Mashan, A. S. (1993). *Studies of gender differences in professional satisfaction*. Kuwait, the library Dar pen for publication and distribution.
- Mason, M. G., & Wozniak, L. (2007). *Collaboration and support: Two key ingredients to e-Learning implementation*. Durban, South Africa: World Library and Information Congress.
- McNical, S., & Nankivall, C. (2002). ICT and resource - based learning: Implication for the future. *British Journal of Educational Technology*, 33(4), 393-401.

- Mihhailova, G. (2006). E-learning as internationalization strategy in higher education Lecturer's and student's perspective. *Baltic Journal of Management*, 1(2), 270-284.
- Minidi, A., & Hlapanis, G. (2005). Pedagogical obstacles in teacher training in information and communication technology, *14* (2) 241-254.
- Ministry of Education. (2004). *Taking the next step, the Interim tertiary e-learning Framework*. New Zealand. Retrieved 27 March, 2007, from: <http://cms.steo.govt.nz/eLearning/Downloads>.
- Mitchell, A., & Honore, S. (2006). Criteria for successful blended learning. *Industrial and Commercial Training*, 39(3). 143-148.
- Mobaideen, H.(2006). Assessing information and communication technology in Jordanian universities. In A. Smith. (Eds). Paper presented at *European and Mediterranean Conference on Information Systems (EMCIS)*, July 6-7, Costa Blanca, Alicante, Spain.
- Molla, A. (2006). *The impact of e-readiness on e-commerce success in developing Countries: Firm-Level Evidence*. Paper presented at Institute for Development Policy and management. UK. Retrieved 26 June, 2007, from <http://www.ecomm4dev.org/DIWkPpr18.DOC>.
- Momani, H. A. (2003). *Evaluation of the nature, extent, and satisfaction with use of the Internet by applied science and technology faculty members in Jordan*. (Unpublished doctoral dissertation). University of Pittsburgh. Pittsburgh. USA.
- Murphy, C., & Greenwood, L. (1998). Effective integration of information and communications technology in teacher education. *Journal of Information and Technology for Teacher Education*, 7(3), 413-429.
- Muse, J. (2003). The Web-based community college student: An examination of factors that lead to success and risk. *Internet and Higher Education* 6(3), 241-261.
- Mutula, S. (2002). E-learning initiative at the university of Botswana: challenges and opportunities. *Campus Wide Information Systems*, 19(3), 99-109.
- Mwanza, D., & Engestrom, Y. (2005). Managing content in e-Learning environments. *British Journal of Education Technology*, 36(3), 453-463.
- Nada, A. (2005). *Continuing education and self-education*. Amman, Jordan: Safa House for Publishing and Distribution.
- National Committee of Enquiry into Higher Education. (2001). National report. *Communications and Information Technology*. England. Retrieved 16 August, 2007, from www.leeds.ac.uk/educal/niche.htm.
- Nichols, M. (2003). A theory for e-Learning. *Educational Technology & Society*, 6(2), 1-10.

- Noor, N. A., & Agboola A. K. (2005). Effective integration of e-Learning tools among lecturers in a tertiary institution: A perceptual survey. *The Public Sector Innovation Journal*, 11(3).
- Nunan, D. (1992). *Research methods in language learning*. Cambridge, England: University Press.
- Nyvang, T. (2006). *Implementation of ICT in higher education a case study of teachers implementing ICT into their teaching practice*. In V. Brown (Eds.). Paper presented at Networked Learning Conference. Lancaster. p.1-8. Retrieved February, 2008, from <http://www.intermedia.uib.no/cscl/doc.pdf>.
- O'Neill, k. G., Singh, L. (2004). Implementing e-Learning programmers for higher education: A Review of the Literature. *Journal of Information Technology Education*, 3(3), 313-323.
- Ong, C. S., & Lai J. Y. (2004). Gender differences in perceptions and relationships among dominants of e-Learning acceptance. *Computers in Human Behavior*, 22(1), 816-829.
- Ortiz, J. M. (2001). *E-Learning*. Paper presented at effects and demands on students and teachers conference. 26-30 September. Retrieved 28 October, 2007, from: www.best.eu.org.pdf.
- Pallant, J. (2006). *A step by step guide to data analysis using SPSS for windows (version 12)*. Buckingham, Philadelphia: Open University Press.
- Pena, J., & Martin, W. (2001). An epistemological framework for analyzing student interactions in computer-mediated communication environments. *British Journal of Educational Technology*, 1(12), 123-146.
- Phelps, R., & Hase, S. (2005). Competency capability, complexity and computers: exploring a new model for conceptualising end-user computer. *British Journal of Educational Technology*, 36(1), 67-84.
- Phillips, V. (2002). *Why does corporate e-learning fail?* Virtual University Gazette. White Paper (On line). Retrieved 25 May, 2007, from <http://www.geteducated.com/vug/june02/vug0602.htm..>
- Polyzou, A. (2005). Growth in teachers' knowledge while learning to teach with multimedia: What has been learned from concrete educational experiences. *Technology, Pedagogy and Education*, 14(2), 205-224.
- Qaddah, M. (2002). Internet cafes vision pioneers of the internet. *Mu'tah Lil-Buhuth Wad-Dirasat*, 17(2), 171-206.
- Qaddah, M., & Abu Atiya, S. (2002). Computerization of education. *A Teacher Journal*, 1(41), 34-56.
- Quality Assurance Agency. (1999). *Distance learning guidelines*. Report from: Higher Education in the United Kingdom. Retrieved 8 April, 2007,

from <http://www.qaa.ac.uk/academicinfrastructure/codeofpractice/distancelearning/default.ap.pdf>.

- Rasaratnam, P. (2006). Development and evaluation of A web-based course for computing and information technology. *INTI Journal*, 2(1), 571-581.
- Resta, P. (2006). E-Learning for teacher development: building capacity toward the information society. *Learning Technology Centre*, University of Texas. USA.
- Roddy, M. (1996). *Using the internet preserves novice teachers*. Phoenix, Arizona: Technology and Teacher Education.
- Rogers, E. M. (1986). *Communication: The new media in society*. New York, USA: The Free Press.
- Rogers, E. M. (2003). *Diffusion of innovations (5th ed)*. New York, USA: The Free Press.
- Rosenberg, M. J. (2001). *E-Learning: Strategies for building online learning in the digital Age*. New York, USA: McGraw-Hill.
- Russell, G., & Bradley, G. (1997). Teachers' computer anxiety: implications for professional development. *Education and Information Technologies*, 1(2), 17-30.
- Ruth, S. R. (2006). E-Learning a financial and strategic perspective. *Educause Quarterly*, 29(1), 22-30.
- Sadik, A. (2007). The readiness of faculty members to develop and implement e-learning: the case of an Egyptian university. *International Journal on E-Learning*, 6(3), 433-453.
- Salama, A. A. & Abu Ria, M. (2002). *Computer education*, Amman, Jordan: Alhliah for Publication and Distribution.
- Samarawickrema, G. & Benson, R. (2004). Helloing academic staff to design electronic learning and teachings approaches. *British Journal of Educational Technology*, 35(5), 659-662.
- Sekaran, U. (2000). *Research methods for business: A skill-building approach*. New York: John Wiley & Sins, Inc.
- Serge, L. (2009). *Teaching with information and communication technologies: Preliminary results of a Large Scale Survey*. New York, USA.
- Shelley, J. (1983). *Computers in the office*. London, England: Pitman Books limited.
- Sheppard, B., Hartwick, J., & Warshaw, P. (1988). The theory of reasoned action: A meta analysis of past research with recommendations for modification and future research. *Journal of Consumer Research*, 15(3), 325-343.

- Shoniregun, C. & Gray S. (2003). Is e-Learning really the future or a risk. *Ubiquity Archive*,12(4), 43-55.
- Smith, J. (2005). *The REAeL Framework: A Basis for diagnosing readiness to exploit the promise*. In M. Brooks (Eds.). Paper presented at 7th Annual Conference on World Wide Web Applications Cape Town, 14-15 July. South Africa.
- Snoeyink, R., & Ertmer, P. (2001). Thrust into technology: How veteran teachers respond. *Journal of Educational Technology Systems*,30(1), 85-111.
- So, T., & Keung, K. (2005). *The e-Learning readiness of teachers in Hong Kong*. K. Van Esch & O. John (Eds.). Paper presented at IEEE International Conference on Advanced Learning Technologies, 9-11 June, National Kaohsiung Normal University, Taiwan.
- So, T., & Swatman, O. (2006). *E-learning readiness of Hong Kong teachers in Hong Kong*. Online paper, University of South Australia. Retrieved 17Febawery, 2007, from <http://www.insyl.unisa.edu.au/publications/working-papers/2006-05.pdf>.
- Social Care Institute for Excellence. (2006). *E-readiness in the social care sector building the capacity for e-learning Research study*. Case study. England. Retrieved 5 June, 2007, from www.scie.org.uk/elearning/files/readiness.pdf.
- Soner, Y. (2000). Effects of an educational computing course on preservice and inservice teachers: A discussion and analysis of attitudes and use. *Journal of Research on Computing in Education*,32(4), 479-477.
- Spiegel, J. (2001). The computer ate my grade book: Understanding teachers' attitudes towards technology. Higher education-Netherlands. Retrieved on March 30, 2011, from <http://www.iona.edu/cs/gradpapers/pdf>.
- Stockley, D. (2004). Implementing e-learning successfully building a successful e-learning strategy. *EI Magazine*, 2(7), 34-36. Retrieved 27 May, 2007, from <http://derekstockley.com.au/articles/elearning-implementation.html>.
- Stopsky, F. (2006). The Internet and the quest for knowledge. *College Teaching*,48(1), 27-38.
- Subrahmanya, M. H. (2005). Pattern of technological innovations in small enterprises: A comparative perspective of Bangalore(India) and Northeast England (UK). *Technovation*, 25(3),269-280.
- Sun, P. C.,& Cheng, H. K. (2007). The design of instructional multimedia in e-Learning: A media richness theory-based approach. *Computers & Education*,49(3),662-676.
- Surry, D. W. (1997). *Diffusion theory and instructional technology*. In L. Resnick (Eds.). Paper presented at the annual conference of the association for educational communications and technology, 16-18 December, Albuquerque, New Mexico.

- Tuparova, D., & Tuparov, G. (2006). *Teachers' attitude towards e-learning courses in Bulgarian universities, current developments in technology-assisted education*. In S. Ivanov. (Eds.). Paper presented at International conference on multimedia and information and communication technologies in education. Seville. Spain Retrieved July 23, 2007, from <http://www.formatex.org/micte2006/pdf/1755-1759.pdf>.
- Turban, E., & Wetherbe, J. (2005). *Information technology for management*. New York, John Wiley & Sons. Inc.
- Veen, W. (1993). The role of beliefs in the use of information technology: Implications for teacher education, teaching the right thing at the right time. *Journal of Information Technology for Teacher Education*, 2(2), 139-153.
- Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science*, 46(2), 186-204.
- Venkatesh, V., Morris, M., Davis, G., & Davis, F. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425-478.
- Vooi, W. M., & Dahalin, Z. B. (2004). *Is our public university ready for e-learning? the case of University Utara Malaysia (UUM)*. In M.S. Hj. Din and B. A. Rahman (Eds.). Paper presented at the international conference on management education, Kuala Lumpur.
- Walrand, J., & Jean, M. (1991). *Communication networks: A first course*. Aksen USA: Associates incorporated Publishers.
- Wang, L., & Chen, M. (2008). Enhancing ICT skills learning through peer learning: perspectives of learning style and gender . *International Journal of Education and Information and Communication Technologies*, 1(2), 126-131.
- Watkins, R., & Leigh D. (2003). Assessing readiness for e-Learning. *Performance Improvement Quarterly*, 17(4), 66-79.
- Watkins, T. (2005). *Exploring e-Learning reforms for michigan, the new education (R) evolution*. A report relevant, rigorous education for our revolutionalized Michigan. Wayne State University. Retrieved 19 December, 2007, from www.coe.wayne.edu/e-learningreport.pdf.
- Whitley, B.E. (1997). Gender differences in computer related attitudes and behaviour: A meta analysis. *Computers in Human Behavior*, 13(1), 1-22.
- Wild, R. H., & Griggs, K. A. (2002). A framework for e-learning as a tool for knowledge management. *Industrial Management & Data Systems*, 102(7), 371-380.
- Wilson, G. (2001). The promise of online education: El Dorado or Fool's Gold. *The Educational Technology Journal*, 11(1), 34-51.

- Woodfine, B. P., & Nunes M. B. (2006). *Text-based synchronous e-Learning and dyslexia: Not necessarily the perfect match*, University of Sheffield.
- Yang, H. H., Mohamad, D. A., & Beyerbach, B. A. (1999). An investigation on computer anxiety among vocational-technical teachers. *Journal of Industrial Teacher Education*, 37, 64-72.
- Yuen, A., & Ma, W. (2002). Gender differences in teacher computer acceptance. *Journal of Technology and Teacher Education*, 10(3), 365-382.
- Yun, G.P. & Murad, M.W. (2006). Factors influencing psychology and skills of the secondary school teachers' e-Learning readiness: A case study in Malacca, Malaysia. In: *Current Developments in Technology-Assisted Education*, 3 (1), 2135-2140, FORMATEX, Badajoz, Spain.
- Yushau, B. (2006). Computer attitude, use, experience, software familiarity and perceived pedagogical usefulness: The case of mathematics professors. *Eurasia Journal of Mathematics, Science and Technology Education*, 2(3), 25-54
- Zoubi, M. (2006). E-learning Goal. Jordan. *Teacher's Journal*, 4(44), 47-77.
- Zyadat, A. (2000). *The use of the internet, its influence on the communication system and the media in Jordan*. The International Forum The Changing Means of Media and Communication and the Cultural Change, 4-6 April, Tunisia.